

### **Amendments to the Claims:**

Please amend the claims as indicated.

1. (Currently Amended) An apparatus for utilizing tape storage media segmentation to improve data access performance, the apparatus comprising:
  - a tape storage medium configured to store data, the tape storage medium formatted with a serpentine recording path and divided into sixteen head index positions, each head index position including thirty-two tracks;
  - a segmentation module configured to access a first segment and a second segment on the tape storage medium;
  - a selection module configured to allow a user to select a user-defined capacity of the tape storage medium that is ~~substantially~~ equivalent to the capacity of the first segment of the tape storage medium and that is less than a usable capacity of the tape storage medium; and
  - an identification module configured to identify a tape storage medium as full when ~~a substantial portion of~~ the user-defined capacity of the tape storage medium has been used to store the data and to mark the tape storage medium as full.
2. (Canceled)
3. (Canceled)
4. (Original) The apparatus of claim 1, wherein the selection module is further configured to allow the user to select the user-defined capacity of the tape storage medium before the data has been stored on the tape storage medium.

5. (Original) The apparatus of claim 1, wherein the selection module is further configured to allow the user to select the user-defined capacity of the tape storage medium after the data has been stored on the tape storage medium.
6. (Original) The apparatus of claim 1, further comprising a mapping module configured to associate the user-defined capacity with a tape storage device on which the tape storage medium is provided.
7. (Original) The apparatus of claim 1, further comprising a write module that is configured to write data to the tape storage medium within the user-defined capacity.
8. (Canceled)
9. (Currently Amended) A system for utilizing tape storage media segmentation to improve data access performance, the system comprising:
  - a tape storage device having a tape storage medium that is configured to store data, the tape storage medium having a first segment and a second segment, is formatted with a serpentine recording path, and divided into sixteen head index positions, each head index position including thirty-two tracks;
  - a host that is configured to communicate with the tape storage device;
  - a segmentation module configured to access a first segment and a second segment on the tape storage medium;

a selection module that is configured to allow a user to select a user-defined capacity of the tape storage medium that is ~~substantially~~-equivalent to the capacity of the first segment of the tape storage medium and that is less than a usable capacity of the tape storage medium;

a mapping module configured to associate the user-defined capacity of the tape storage medium with the tape storage device;

a write module that is configured to write data to the tape storage medium within the user-defined capacity;

an identification module that is configured to identify a tape storage device as full when ~~a substantial portion of~~ the user-defined capacity of the storage medium is used to store the data and to mark the tape storage medium as full; and

a read module that is configured to read data from the tape storage medium.

10. (Original) The system of claim 9, wherein the segmentation module is further configured to use the tape storage medium according to a segmentation layout.
11. (Original) The system of claim 10, wherein the segmentation layout defines a plurality of segments on the tape storage medium, each segment having a user-defined size.
12. (Currently Amended) A process for utilizing tape storage media segmentation to improve data access performance, the process comprising:

providing a tape storage device having a tape storage medium, the tape storage medium formatted with a serpentine recording path and divided into sixteen head index positions, each head index position including thirty-two tracks;

accessing at least one of a first segment and a second segment on the tape storage medium;

allowing a user to select a user-defined capacity of the tape storage medium that is ~~substantially~~ equivalent to the capacity of the first segment of the tape storage medium and that is less than a usable capacity of the tape storage medium; and

identifying a tape storage device as full when ~~a substantial portion of the~~ user-defined capacity of the tape storage medium is used to store the data and to mark the tape storage medium as full.

13. (Canceled)

14. (Canceled)

15. (Original) The process of claim 12, wherein allowing a user to select a user-defined capacity further comprises allowing the user to select the user-defined capacity of the tape storage medium before the data has been stored on the tape storage medium.

16. (Original) The process of claim 12, wherein allowing a user to select a user-defined capacity further comprises allowing the user to select the user-defined

capacity of the tape storage medium after the data has been stored on the tape storage medium.

17. (Original) The process of claim 12, further comprising associating the user-defined capacity of the tape storage medium with the tape storage device.
18. (Original) The process of claim 12, further comprising writing data to the tape storage medium within the user-defined capacity.
19. (Canceled)
20. (Original) A computer readable storage medium comprising computer readable code configured to carry out the process for utilizing tape storage media segmentation to improve data access performance of claim 12.
21. (Previously presented) The apparatus of claim 1, wherein the first segment and the second segment are configured with different storage capacities.
22. (Canceled)